

## Resources and Costs for Fluoride Varnish Supplies

Fluoride varnish comes in several brands and can be obtained from any dental supply company. The pediatric single unit dose of 0.25ml (with a built in applicator) is recommended for early childhood. Listed below are some of the available brands and approximate prices of fluoride varnish with 5 % sodium fluoride in a natural colophonium resin.

### Fluoride Varnish Sample Listing

#### Cavityshield

Manufacturer: OMNI Preventive Care, a 3M ESPE Co.

1-800-634-2249

32 0.25 ml unit doses \$ 40.00 \$ 1.25/dose

200 0.25 ml unit doses \$193.00 \$ 0.97/dose

#### Duraflor

Manufacturer: Medicom

1-800-361-2862

32 0.25 ml unit doses \$ 47.00 \$1.47/dose

200 0.25 ml unit doses \$194.00 \$0.97/dose

#### VarnishAmerica

Manufacturer: Medical Products Laboratories, Inc.

1-800-523-0191, Ext. 126

200 0.25 ml unit doses \$149.99 \$ 0.74/dose

#### Enamel Pro Varnish

Manufacturer: Premier Dental

1-888-670-6100

35 0.25 ml unit doses \$72.00 \$2.06/dose

**Misc:** Disposable Mirrors (package of 60) \$27.75 (Patterson Dental)  
2 x 2 gauze squares \$3.50-4.50/sleeve of 200

### Dental Suppliers\*:

#### Patterson Dental Supply, Inc.

Richmond: (804) 262-4070

Chesapeake: (757) 382-4270

<https://www.pattersondental.com>

#### Henry Schein Dental

Richmond: (804) 828-0718

Roanoke: (540) 342-1784

<https://www.henryschein.com>

1-800-372-4346

\* Check local listings. Prices are 2015 estimates and vary according to individual purchasing plans with the suppliers mentioned.

# Policy on Early Childhood Caries (ECC): Classifications, Consequences, and Preventive Strategies

## Originating Group

A collaborative effort of the American Academy of Pedodontics and the American Academy of Pediatrics

## Review Council

Council on Clinical Affairs

## Adopted

1978

## Revised

1993, 1996, 2001, 2003, 2007, 2008, 2011, 2014\*

## Purpose

The American Academy of Pediatric Dentistry (AAPD) recognizes early childhood caries [(ECC); formerly termed nursing bottle caries, baby bottle tooth decay] as a significant public health problem.<sup>1</sup> The AAPD encourages oral health care providers and caregivers to implement preventive practices that can decrease a child's risks of developing this devastating disease.

## Methods

This document is a revision of the previous policy, last revised in 2008. The update used electronic and hand searches of English written articles in the dental and medical literature within the last 10 years, using the search terms infant oral health, infant oral health care, and early childhood caries. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

## Background

In 1978, the American Academy of Pedodontics released "Nursing Bottle Caries", a joint statement with the American Academy of Pediatrics, to address a severe form of caries associated with bottle usage.<sup>2</sup> Initial policy recommendations were limited to feeding habits, concluding that nursing bottle caries could be avoided if bottle feedings were discontinued soon after the first birthday. An early policy revision added ad libitum breastfeeding as a causative factor. Over the next two decades, however, recognizing that this distinctive clinical presentation was not consistently associated with poor feeding practices and that caries was an infectious disease, AAPD adopted the term ECC to reflect better its multifactorial etiology.

Dental caries is a common chronic infectious transmissible disease resulting from tooth-adherent specific bacteria, primarily Mutans Streptococci (MS), that metabolize sugars

to produce acid which, over time, demineralizes tooth structure.<sup>3</sup> The disease of ECC is the presence of one or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child under the age of six. In children younger than three years of age, any sign of smooth-surface caries is indicative of severe early childhood caries (S-ECC). From ages three through five, one or more cavitated, missing (due to caries), or filled smooth surfaces in primary maxillary anterior teeth or a decayed, missing, or filled score of greater than or equal to four (age 3), greater than or equal to five (age 4), or greater than or equal to six (age 5) surfaces also constitutes S-ECC.<sup>4</sup>

Epidemiologic data from national surveys clearly indicate that ECC is highly prevalent and increasing in poor and near poor US preschool children and is largely untreated in children under age three.<sup>5</sup> Those children with caries experience have been shown to have high numbers of teeth affected. Consequences of ECC include a higher risk of new carious lesions in both the primary and permanent dentitions,<sup>6,7</sup> hospitalizations and emergency room visits,<sup>8,9</sup> increased treatment costs,<sup>10</sup> risk for delayed physical growth and development,<sup>11,12</sup> loss of school days and increased days with restricted activity,<sup>13,14</sup> diminished ability to learn,<sup>15</sup> and diminished oral health-related quality of life.<sup>16</sup>

Dental caries is a transmissible infectious disease and understanding the acquisition of cariogenic microbes improves preventive strategies. Microbial risk markers for ECC include MS and Lactobacillus species.<sup>17</sup> MS maybe transmitted vertically from caregiver to child through salivary contact, affected by the frequency and amount of exposure. Infants whose mothers have high levels of MS, a result of untreated caries, are at greater risk of acquiring the organism earlier than children whose mothers have low levels.<sup>18</sup> Horizontal transmission (eg, between other members of a family or children in daycare) also occurs.<sup>18</sup> Eliminating saliva-sharing activities (eg, sharing utensils, orally cleansing a pacifier) may help decrease an infant's or toddler's acquisition of cariogenic microbes.<sup>18</sup>

\* The 2014 revision is limited to use of fluoride toothpaste in young children.

Newly-erupted teeth, because of immature enamel, and teeth with enamel hypoplasia may be at higher risk of developing caries. Current best practice includes twice-daily brushing with fluoridated toothpaste for all children in optimally fluoridated and fluoride-deficient communities. When determining the risk-benefit of fluoride, the key issue is mild fluorosis versus preventing devastating dental disease. A 'smear' or 'rice-size' amount of fluoridated toothpaste (approximately 0.1 mg fluoride; see Figure 1) should be used for children less than three years of age. A 'pea-size' amount of fluoridated toothpaste (approximately 0.25 mg fluoride) is appropriate for children aged three to six.<sup>19,20</sup> Parents should dispense the toothpaste onto a soft, age-appropriate sized toothbrush and perform or assist with toothbrushing of preschool-aged children. To maximize the beneficial effect of fluoride in the toothpaste, rinsing after brushing should be kept to a minimum or eliminated altogether.<sup>21</sup>

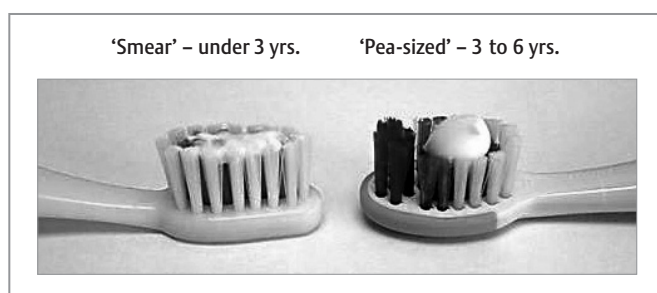


Figure 1. Comparison of a 'smear' (left) with a 'pea-size' (right) amount of toothpaste.

Professionally-applied topical fluoride treatments also are efficacious in reducing prevalence of ECC. The recommended professionally-applied fluoride treatments for children at risk for ECC who are younger than six years is five percent sodium fluoride varnish (NaFV; 22,500 ppm F).<sup>22</sup> An associated risk factor to microbial etiology is high frequency consumption of sugars. Caries-conducive dietary practices appear to be established by 12 months of age and are maintained throughout early childhood.<sup>23,24</sup> Frequent night time bottle feeding with milk and ad libitum breast-feeding are associated with, but not consistently implicated in, ECC.<sup>25</sup> Night time bottle feeding with juice, repeated use of a sippy or no-spill cup, and frequent in between meal consumption of sugar-containing snacks or drinks (eg, juice, formula, soda) increase the risk of caries.<sup>26</sup> While ECC may not arise from breast milk alone, breast feeding in combination with other carbohydrates has been found in vitro to be highly cariogenic.<sup>27</sup> Frequent consumption of between-meal snacks and beverages containing sugars increases the risk of caries due to prolonged contact between sugars in the consumed food or liquid and cariogenic bacteria on the susceptible teeth.<sup>28</sup> The American Academy of Pediatrics has recommended children one through six years

of age consume no more than four to six ounces of fruit juice per day, from a cup (ie, not a bottle or covered cup) and as part of a meal or snack.<sup>29</sup>

Evidence increasingly suggests that preventive interventions within the first year of life are critical.<sup>30</sup> This may be best implemented with the help of medical providers who, in many cases, are being trained to provide oral screenings, apply preventive measures, counsel caregivers, and refer infants and toddlers for dental care.<sup>31</sup>

### Policy statement

The AAPD recognizes caries as a common chronic disease resulting from an imbalance of multiple risk factors and protective factors over time. To decrease the risk of developing ECC, the AAPD encourages professional and at-home preventive measures that include:


1. Reducing the parent's/sibling's MS levels to decrease transmission of cariogenic bacteria.
2. Minimizing saliva-sharing activities (eg, sharing utensils) to decrease the transmission of cariogenic bacteria.
3. Implementing oral hygiene measures no later than the time of eruption of the first primary tooth. Toothbrushing should be performed for children by a parent twice daily, using a soft toothbrush of age-appropriate size. In all children under the age of three, a 'smear' or 'rice-size' amount of fluoridated toothpaste should be used. In all children ages three to six, a 'pea-size' amount of fluoridated toothpaste should be used.
4. Providing professionally-applied fluoride varnish treatments for children at risk for ECC.
5. Establishing a dental home within six months of eruption of the first tooth and no later than 12 months of age to conduct a caries risk assessment and provide parental education including anticipatory guidance for prevention of oral diseases.
6. Avoiding high frequency consumption of liquids and/or solid foods containing sugar. In particular:
  - Sugar-containing beverages (eg, juices, soft drinks, sweetened tea, milk with sugar added) in a baby bottle or no-spill training cup should be avoided.
  - Infants should not be put to sleep with a bottle filled with milk or liquids containing sugars.
  - Ad libitum breast-feeding should be avoided after the first primary tooth begins to erupt and other dietary carbohydrates are introduced.
  - Parents should be encouraged to have infants drink from a cup as they approach their first birthday. Infants should be weaned from the bottle between 12 to 18 months of age.<sup>32</sup>
7. Working with medical providers to ensure all infants and toddlers have access to dental screenings, counseling, and preventive procedures.

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## Recommended Dental Periodicity Schedule for Pediatric Oral Health Assessment, Preventive Services, and Anticipatory Guidance/Counseling

Since each child is unique, these recommendations are designed for the care of children who have no contributing medical conditions and are developing normally. These recommendations will need to be modified for children with special health care needs or if disease or trauma manifests variations from normal. The American Academy of Pediatric Dentistry emphasizes the importance of very early professional intervention and the continuity of care based on the individualized needs of the child. Refer to the text of this guideline for supporting information and references. Refer to the text in the Recommendations on the Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance, and Oral Treatment for Infants, Children, and Adolescents ([www.aapd.org/policies/](http://www.aapd.org/policies/)) for supporting information and references.

 AMERICA'S PEDIATRIC DENTISTS <b>THE BIG AUTHORITY</b> on little teeth®	AGE				
	6 TO 12 MONTHS	12 TO 24 MONTHS	2 TO 6 YEARS	6 TO 12 YEARS	12 YEARS AND OLDER
Clinical oral examination <sup>1</sup>	•	•	•	•	•
Assess oral growth and development <sup>2</sup>	•	•	•	•	•
Caries-risk assessment <sup>3</sup>	•	•	•	•	•
Radiographic assessment <sup>4</sup>	•	•	•	•	•
Prophylaxis and topical fluoride <sup>3,4</sup>	•	•	•	•	•
Fluoride supplementation <sup>5</sup>	•	•	•	•	•
Anticipatory guidance/counseling <sup>6</sup>	•	•	•	•	•
Oral hygiene counseling <sup>7</sup>	Parent	Parent	Patient/parent	Patient/parent	Patient
Dietary counseling <sup>8</sup>	•	•	•	•	•
Injury prevention counseling <sup>9</sup>	•	•	•	•	•
Counseling for nonnutritive habits <sup>10</sup>	•	•	•	•	•
Counseling for speech/language development	•	•	•		
Assessment and treatment of developing malocclusion			•	•	•
Assessment for pit and fissure sealants <sup>11</sup>			•	•	•
Substance abuse counseling				•	•
Counseling for intraoral/perioral piercing				•	•
Assessment and/or removal of third molars					•
Transition to adult dental care					•

- 1 First examination at the eruption of the first tooth and no later than 12 months. Repeat every 6 months or as indicated by child's risk status/susceptibility to disease. Includes assessment of pathology and injuries.
- 2 By clinical examination.
- 3 Must be repeated regularly and frequently to maximize effectiveness.
- 4 Timing, selection, and frequency determined by child's history, clinical findings, and susceptibility to oral disease.
- 5 Consider when systemic fluoride exposure is suboptimal. Up to at least 16 years.
- 6 Appropriate discussion and counseling should be an integral part of each visit for care.
- 7 Initially, responsibility of parent; as child matures, jointly with parent; then, when indicated, only child.

- 8 At every appointment; initially discuss appropriate feeding practices, then the role of refined carbohydrates and frequency of snacking in caries development and childhood obesity.
- 9 Initially play objects, pacifiers, car seats; when learning to walk; then with sports and routine playing, including the importance of mouthguards.
- 10 At first, discuss the need for additional sucking: digits vs pacifiers; then the need to wean from the habit before malocclusion or skeletal dysplasia occurs. For school-aged children and adolescent patients, counsel regarding any existing habits such as fingernail biting, clenching, or bruxism.
- 11 For caries-susceptible primary molars, permanent molars, premolars, and anterior teeth with deep pits and fissures; placed as soon as possible after eruption.

# Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance/Counseling, and Oral Treatment for Infants, Children, and Adolescents

## Latest Revision

2018

### Purpose

The American Academy of Pediatric Dentistry (AAPD) intends these recommendations to help practitioners make clinical decisions concerning preventive oral health interventions, including anticipatory guidance and preventive counseling, for infants, children, and adolescents.

### Methods

This document was developed by the Clinical Affairs Committee and adopted in 1991. This document is a revision of the previous version, last revised in 2013. The update used electronic database and hand searches of articles in the medical and dental literature using the terms: periodicity of dental examinations, dental recall intervals, preventive dental services, anticipatory guidance and dentistry, caries risk assessment, early childhood caries, dental caries prediction, dental care cost effectiveness and children, periodontal disease and children and adolescents U.S., pit and fissure sealants, dental sealants, fluoride supplementation and topical fluoride, dental trauma, dental fracture and tooth, non-nutritive oral habits, treatment of developing malocclusion, removal of wisdom teeth, removal of third molars; fields: all; limits: within the last 10 years, humans, English, and clinical trials; birth through age 18. From this search, 1,884 articles matched these criteria and were evaluated by title and/or abstract. Information from 49 articles was chosen for review to update this document. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

### Background

Professional dental care is necessary to maintain oral health.<sup>1</sup> The AAPD emphasizes the importance of initiating professional oral health intervention in infancy and continuing through adolescence and beyond.<sup>2</sup> The periodicity of professional oral health intervention and services is based on a patient's individual needs and risk indicators.<sup>3-8</sup> Each age group, as well as each individual child, has distinct developmental needs to be addressed at specific intervals as part of a comprehensive evaluation.<sup>2,9-11</sup> Continuity of care is based on the assessed needs of the individual patient and assures appropriate management of all oral conditions, dental disease, and

injuries.<sup>12-18</sup> The early dental visit to establish a dental home provides a foundation upon which a lifetime of preventive education and oral health care can be built. The early establishment of a dental home has the potential to provide more effective and less costly dental care when compared to dental care provided in emergency care facilities or hospitals.<sup>19-23</sup> Anticipatory guidance and counseling are essential components of the dental visit.<sup>2,9,10,19,20,22,24-37</sup>

Collaborative efforts and effective communication between medical and dental homes are essential to prevent oral disease and promote oral and overall health among children. Medical professionals can play an important role in children's oral health by providing primary prevention and coordinated care. Equally, dentists can improve the overall health of children not only by treating dental disease, but also by proactively recognizing child abuse, preventing traumatic injuries through anticipatory guidance, preventing obesity by longitudinal dietary counseling, and monitoring of weight status.<sup>28</sup> In addition, dentists can have an important role in assessing immunization status and developmental milestones for potential delays, as well as making appropriate referral for further neurodevelopmental evaluations and therapeutic services.<sup>29</sup> The unique opportunity that dentists have to help address overall health issues strengthens as children get older since frequency of well child medical visits decreases at the same time the frequency of dental recall visits increases. Research shows that children aged six- to 12-years are, on average, four times more likely to visit a dentist than a pediatrician.<sup>30,31</sup>

### Recommendations

This document addresses periodicity and general principles of examination, preventive dental services, anticipatory guidance/counseling, and oral treatment for children who have no contributory medical conditions and are developing normally. Accurate, comprehensive, and up-to-date medical, dental, and social histories are necessary for correct diagnosis

#### ABBREVIATIONS

AAPD: American Academy Pediatric Dentistry. ECC: Early childhood caries. SHCN: Special health care needs.

and effective treatment planning. Recommendations may be modified to meet the unique requirements of patients with special health care needs (SHCN).<sup>32</sup>

### Clinical oral examination

The first examination is recommended at the time of the eruption of the first tooth and no later than 12 months of age.<sup>2,19,20,22</sup> The developing dentition and occlusion should be monitored throughout eruption at regular clinical examinations.<sup>27</sup> Evidence-based prevention and early detection and management of caries/oral conditions can improve a child's oral and general health, well-being, and school readiness.<sup>5,24,33-36</sup> It has been reported that the number and cost of dental procedures among high-risk children is less for those seen at an earlier age versus later, confirming the fact that the sooner a child is seen by a dentist, the less treatment needs they are likely to have in the future.<sup>37</sup> On the other hand, delayed diagnosis of dental disease can result in exacerbated problems which lead to more extensive and costly care.<sup>8,33,38-41</sup> Early diagnosis of developing malocclusions may allow for timely therapeutic intervention.<sup>9,27</sup>

Components of a comprehensive oral examination include assessment of:

- general health/growth.
- pain.
- extraoral soft tissues.
- temporomandibular joints.
- intraoral soft tissues.
- oral hygiene and periodontal health.
- intraoral hard tissues.
- developing occlusion.
- caries risk.
- behavior of child.

Based upon the visual examination, the dentist may employ additional diagnostic aids (e.g., radiographs, photographs, pulp vitality testing, laboratory tests, study casts).<sup>8,13,42-44</sup>

The interval of examination should be based on the child's individual needs or risk status/susceptibility to disease; some patients may require examination and preventive services at more or less frequent intervals, based upon historical, clinical, and radiographic findings.<sup>4,7,8,16,18,25,45-48</sup> Caries and its sequelae are among the most prevalent health problems facing infants, children, and adolescents in America.<sup>49</sup> Caries lesions are cumulative and progressive and, in the primary dentition, are highly predictive of caries occurring in the permanent dentition.<sup>6,50</sup> Reevaluation and reinforcement of preventive activities contribute to improved instruction for the caregiver of the child or adolescent, continuity of evaluation of the patient's health status, and repetitive exposure to dental procedures, potentially allaying anxiety and fear for the apprehensive child or adolescent.<sup>51</sup> Individuals with SHCN may require individualized preventive and treatment strategies that take into consideration the unique needs and disabilities of the patient.<sup>32</sup>

### Caries-risk assessment

Risk assessment is a key element of contemporary preventive care for infants, children, adolescents, and persons with SHCN. It should be carried out as soon as the first primary teeth erupt and be reassessed periodically by dental and medical providers.<sup>6,25</sup> Its goal is to prevent disease by (1) identifying children at high risk for caries, (2) developing individualized preventive measures and caries management, as well as (3) aiding the practitioner in determining appropriate periodicity of services.<sup>25,52,53</sup> Given that the etiology of dental caries is multifactorial and complex, current caries-risk assessment models entail a combination of factors including diet, fluoride exposure, host susceptibility, and microflora analysis and consideration of how these factors interact with social, cultural, and behavioral factors. More comprehensive models that include social, political, psychological, and environmental determinants of health also are available.<sup>54-57</sup> Caries risk assessment forms and caries management protocols are available and aim to simplify and clarify the process.<sup>25,58,59</sup>

Sufficient evidence demonstrates certain groups of children at greater risk for development of early childhood caries (ECC) would benefit from infant oral health care.<sup>24,33,60-64</sup> Infants and young children have unique caries-risk factors such as ongoing establishment of oral flora and host defense systems, susceptibility of newly erupted teeth, and development of dietary habits. Because the etiology of ECC is multifactorial and significantly influenced by health behaviors,<sup>65</sup> preventive messages for expectant parents and parents of very young children should target factors known to place children at a higher risk for developing caries (e.g., early Mutans streptococci transmission, poor oral hygiene habits, nighttime feeding, high sugar consumption frequency).<sup>24,33,57,66</sup> Motivational problems may develop when parents/patients are not interested in changing behaviors or feel that the changes require excessive effort. Therefore, it is important that health care professionals utilize preventive approaches based on psychological and behavioral strategies. Moreover, they should be sensitive to how they can effectively communicate their recommendations so that parents/patients can perceive their recommendations as behaviors worth pursuing. Two examples of effective motivational approaches used for caries prevention that share similar psychological philosophies are motivational interviewing and self-determination theory.<sup>67-73</sup>

Studies consistently have reported caries experience in the primary dentition as a predictor of future caries.<sup>74</sup> Early school-aged children are at a transitional phase from primary to mixed dentition. These children face challenges such as unsupervised toothbrushing and increased consumption of cariogenic foods and beverages while at school, placing them at a higher risk for developing caries.<sup>75-77</sup> Therefore, special attention should be given to school-aged children regarding their oral hygiene and dietary practices.

Adolescence can be a time of heightened caries activity due to an increased number of tooth surfaces in the permanent

dentition and intake of cariogenic substances, as well as low priority for oral hygiene procedures.<sup>9,55,56</sup> Risk assessment can assure preventive care (e.g., water fluoridation, professional and home-use fluoride and antimicrobial agents, frequency of dental visits) is tailored to each individual's needs and direct resources to those for whom preventive interventions provide the greatest benefit.<sup>9</sup> Because a child's risk for developing dental disease can change over time due to changes in habits (e.g., diet, home care), oral microflora, or physical condition, risk assessment must be documented and repeated regularly and frequently to maximize effectiveness.<sup>11,25</sup>

### Prophylaxis and professional topical fluoride treatment

The interval for frequency of professional preventive services is based upon assessed risk for caries and periodontal disease.<sup>3,4,7,8,10,11,25,58,59,60</sup> Prophylaxis aids in plaque, stain, and calculus removal, as well as in educating the patient on oral hygiene techniques and facilitating the clinical examination.<sup>10</sup> Gingivitis, which is nearly universal in children and adolescents, usually responds to thorough removal of bacterial deposits and improved oral hygiene.<sup>47,79,80</sup> Hormonal fluctuations, including those occurring during the onset of puberty, can modify the gingival inflammatory response to dental plaque.<sup>47,48,81</sup> Children can develop any of the several forms of periodontitis, with aggressive periodontitis occurring more commonly in children and adolescents than adults.<sup>47,48,80</sup>

Children who exhibit higher risk of developing caries and/or periodontal disease would benefit from recall appointments at greater frequency than every six months (e.g., every three months).<sup>3,4,8,10,11,25,59</sup> This allows increased professional fluoride therapy application and improvement of oral health by demonstrating proper oral hygiene techniques, in addition to microbial monitoring, antimicrobial therapy reapplication, and reevaluating behavioral changes for effectiveness.<sup>3,10,48,59,82-84</sup> An individualized preventive plan increases the probability of good oral health by demonstrating proper oral hygiene methods/techniques and removing plaque, stain, and calculus.<sup>4,48,84</sup>

Fluoride contributes to the prevention, inhibition, and reversal of caries.<sup>85-87</sup> Professional topical fluoride treatments should be based on caries risk assessment.<sup>19,25,86,89</sup> Plaque and pellicle are not a barrier to fluoride uptake in enamel.<sup>10</sup> Consequently, there is no evidence of a difference in caries rates or fluoride uptake in patients who receive rubber cup prophylaxis or a tooth-brush prophylaxis before fluoride treatment.<sup>88,89</sup> Precautionary measures should be taken to prevent swallowing of any professionally-applied topical fluoride. Children at high caries risk should receive greater frequency of professional fluoride applications (e.g., every three months).<sup>85,89-92</sup> Ideally, this would occur as part of a comprehensive preventive program in a dental home.<sup>19</sup>

### Fluoride supplementation

The AAPD encourages optimal fluoride exposure for every child, recognizing fluoride in the community water supplies as the most beneficial and cost-effective preventive intervention.<sup>85</sup>

Fluoride supplementation should be considered for children at moderate to high caries risk when fluoride exposure is not optimal.<sup>85</sup> Determination of dietary fluoride sources (e.g., drinking water, toothpaste, foods, beverages) before prescribing supplements is required and can help reduce intake of excess fluoride.<sup>85</sup> In addition, supplementation should be in accordance with the guidelines recommended by the AAPD<sup>85</sup> and the American Dental Association<sup>93,94</sup>.

### Radiographic assessment

Radiographs are a valuable adjunct in the oral health care of infants, children, and adolescents to diagnose and monitor oral diseases and evaluate dentoalveolar trauma, as well as monitor dentofacial development and the progress of therapy.<sup>45</sup> Timing of initial radiographic examination should not be based on the patient's age, but upon each child's individual circumstances.<sup>45,46</sup> The need for dental radiographs can be determined only after consideration of the patient's medical and dental histories, completion of a thorough clinical examination, and assessment of the patient's vulnerability to environmental factors that affect oral health.<sup>45</sup> Every effort must be made to minimize the patient's radiation exposure by applying good radiological practices (e.g., use of protective aprons and thyroid collars, when appropriate) and by following the as low as reasonably achievable (ALARA principle).<sup>45</sup>

### Anticipatory guidance/counseling

Anticipatory guidance is the process of providing practical and developmentally-appropriate information about children's health to prepare parents for significant physical, emotional, and psychological milestones.<sup>2,9,19,20,95,96</sup> Individualized discussion and counseling should be an integral part of each visit. Topics to be included are oral/dental development and growth, speech/language development, nonnutritive habits, diet and nutrition, injury prevention, tobacco product use, substance use/abuse, intraoral/perioral piercing, and oral jewelry/accessories.<sup>2,9,15,19,27,95-102,213,214</sup>

Anticipatory guidance regarding the characteristics of a normal healthy oral cavity should occur during infant oral health visits and throughout follow-up dental visits. This allows parents to measure against any changes such as, but not limited to, growth delays, traumatic injuries, and poor oral hygiene or presence of caries lesions. Tooth development and chronology of eruption can help parents better understand the implications of delayed or accelerated tooth emergence and the role of fluorides in newly erupted teeth that may be at higher risk of developing caries, especially during the post-eruption maturation process.<sup>95</sup> Assessment of developmental milestones (e.g., fine/gross motor skills, language, social interactions) is crucial for early recognition of potential delays and appropriate referral to therapeutic services.<sup>29</sup> Speech and language are integral components of a child's early development.<sup>101</sup> Abnormal delays in speech and language production can be recognized early with referral made to address these concerns. Communication and coordination of appliance



therapy with a speech and language professional can assist in the timely treatment of speech disorders.<sup>101</sup>

Oral habits (e.g., nonnutritive sucking; digital and pacifier habits; bruxism; tongue thrust swallow and abnormal tongue position; self-injurious/self-mutilating behavior) may apply forces to teeth and dentoalveolar structures. Although early use of pacifiers and digit sucking are considered normal, habits of sufficient frequency, intensity, and duration can contribute to deleterious changes in occlusion and facial development.<sup>27</sup> It is important to discuss the need for early pacifier and digit sucking, then the need to wean from the habits before malocclusion or skeletal dysplasias occur.<sup>27</sup> Early dental visits provide an opportunity to encourage parents to help their children stop sucking habits by age three years or younger. For school-aged children and adolescent patients, counseling regarding any existing habits (e.g., fingernail biting, clenching, bruxism) is appropriate.<sup>27</sup> Parents should be provided with information regarding the potential immediate and long-term effects on the craniofacial complex and dentition from a habit. If treatment is indicated, it can include patient/parent counseling, behavior modification techniques, appliance therapy, or referral to other providers including, but not limited to, orthodontists, psychologists, or otolaryngologists.<sup>27</sup>

Oral hygiene counseling involves the parent and patient. Initially, oral hygiene is the responsibility of the parent. As the child develops, home care is performed jointly by parent and child. When a child demonstrates the understanding and ability to perform personal hygiene techniques, the health care professional should counsel the child. The effectiveness of home care should be monitored at every visit and includes a discussion on the consistency of daily oral hygiene preventive activities, including adequate fluoride exposure.<sup>3,4,9,25,85,103</sup>

The development of dietary habits and childhood food preferences appears to be established early and may affect the oral health as well as general health and well-being of a child.<sup>104</sup> The establishment of a dental home no later than 12 months of age allows dietary and nutrition counseling to occur early. This helps parents to develop proper oral health habits early in their child's life, rather than trying to change established unhealthy habits later. During infancy, counseling should focus on breastfeeding, bottle or no-spill cup usage, concerns with nighttime feedings, frequency of in-between meal consumption of sugar-sweetened beverages (e.g., sweetened milk, 100 percent juice, soft drinks, fruit drinks, sports drinks) and snacks, as well as special diets.<sup>26</sup> Excess consumption of carbohydrates, fats, and sodium contribute to poor systemic health.<sup>105-107</sup> Dietary analysis and the role of dietary choices on oral health, malnutrition, and obesity should be addressed through nutritional and preventive oral health counseling at periodic visits.<sup>26,108</sup> The U.S. Departments of Health and Human Services and Agriculture provide dietary guidelines every five years to help Americans two years of age and older make healthy choices to help prevent chronic diseases and guidance for parents and their children and promote a healthy diet.<sup>109</sup>

Traumatic dental injuries that occur in preschool, school-age children, and young adults comprise five percent of all injuries for which treatment is sought.<sup>110</sup> Facial trauma that results in fractured, displaced, or lost teeth can have significant negative functional, esthetic, and psychological effects on children.<sup>111</sup> Practitioners should provide age-appropriate injury prevention counseling for orofacial trauma.<sup>15,96</sup> Initially, discussions would include advice regarding play objects, pacifiers, car seats, and electrical cords. As motor coordination develops and the child grows older, the parent/patient should be counseled on additional safety and preventive measures, including use of athletic mouthguards for sporting activities. Dental injuries could have improved outcomes not only if the public were aware of first-aid measures and the need to seek immediate treatment, but also if the injured child had access to emergency care at all times. Caregivers report that, even though their children had a dental home, they have experienced barriers to care when referred outside of the dental home for emergency services.<sup>112</sup> Barriers faced by caregivers include availability of providers and clinics for delivery of emergency care and the distance one must travel for treatment. Therefore, it is important that all primary care providers inform parents about ways to access emergency care for dental injuries and provide telephone numbers to access a dentist, including for after-hours emergency care.<sup>113</sup>

Smoking and smokeless tobacco use almost always are initiated and established in adolescence.<sup>114-116</sup> In 2016, 7.2 percent of middle school students and 20.2 percent of high school students reported current tobacco product use.<sup>117</sup> The most common tobacco products used by middle school and high school students were reported to be e-cigarettes, cigarettes, cigars, smokeless tobacco, hookahs, pipe tobacco, and bidis (unfiltered cigarettes from India).<sup>117</sup> E-cigarette use rose from 1.5 percent to 16.0 percent among high school students and from 0.6 percent to 5.3 percent among middle school students from 2011 to 2015.<sup>117</sup> During this time period, children may be exposed to opportunities to experiment with other substances that negatively impact their health and well-being. Practitioners should provide education regarding the serious health consequences of tobacco use and exposure to second hand smoke.<sup>97,117</sup> The practitioner may need to obtain information regarding tobacco use and alcohol/drug abuse confidentially from an adolescent patient.<sup>9,100</sup> When tobacco or substance abuse has been identified, practitioners should provide brief interventions for encouragement, support, and positive reinforcement for avoiding substance use.<sup>97,100</sup> If indicated, dental practitioners should provide referral to primary care providers or behavioral-health/addiction specialists for assessment and/or treatment of substance use disorders.<sup>100</sup>

Complications from intraoral/perioral piercings can range from pain, infection, and tooth fracture to life-threatening conditions of bleeding, edema, and airway obstruction.<sup>99</sup> Education regarding pathologic conditions and sequelae associated with piercings should be initiated for the preteen

child/parent and reinforced during subsequent periodic visits. The AAPD strongly opposes the practice of piercing intraoral and perioral tissues and use of jewelry on intraoral and perioral tissues due to the potential for pathological conditions and sequelae associated with these practices.<sup>99</sup>

#### **Treatment of dental disease/injury**

Health care providers who diagnose oral disease or trauma should either provide therapy or refer the patient to an appropriately-trained individual for treatment.<sup>118</sup> Immediate intervention is necessary to prevent further dental destruction, as well as more widespread health problems. Postponed treatment can result in exacerbated problems that may lead to the need for more extensive care.<sup>22,34,35,40</sup> Early intervention could result in savings of health care dollars for individuals, community health care programs, and third-party payors.<sup>21,29,30,34</sup>

#### **Treatment of developing malocclusion**

Guidance of eruption and development of the primary, mixed, and permanent dentitions is an integral component of comprehensive oral health care for all pediatric dental patients.<sup>27</sup> Dentists have the responsibility to recognize, diagnose, and manage or refer abnormalities in the developing dentition as dictated by the complexity of the problem and the individual clinician's training, knowledge, and experience.<sup>118</sup> Early diagnosis and successful treatment of developing malocclusions can have both short-term and long-term benefits, while achieving the goals of occlusal harmony and function and dentofacial esthetics.<sup>104-108</sup> Early treatment is beneficial for many patients, but is not indicated for every patient. When there is a reasonable indication that an oral habit will result in unfavorable sequelae in the developing permanent dentition, any treatment must be appropriate for the child's development, comprehension, and ability to cooperate. Use of an appliance is indicated only when the child wants to stop the habit and would benefit from a reminder.<sup>27</sup> At each stage of occlusal development, the objectives of intervention/treatment include: (1) reversing adverse growth, (2) preventing dental and skeletal disharmonies, (3) improving esthetics of the smile, (4) improving self-image, and (5) improving the occlusion.<sup>27</sup>

#### **Sealants**

A 2016 systematic review concluded sealants are effective in preventing and arresting pit-and-fissure occlusal caries lesions of primary and permanent molars in children and adolescents and can minimize the progression of noncavitated occlusal caries lesions.<sup>120</sup> They are indicated for primary and permanent teeth with pits and fissures that are predisposed to plaque retention.<sup>121</sup> At-risk pits and fissures should be sealed as soon as possible. Because caries risk may increase at any time during a patient's life due to changes in habits (e.g., dietary, home care), oral microflora, or physical condition, unsealed teeth subsequently might benefit from sealant application.<sup>122</sup> The need for sealant placement should be reassessed at periodic

preventive care appointments. Sealants should be monitored and repaired or replaced as needed.<sup>121-123</sup>

#### **Third molars**

Panoramic or periapical radiographic assessment is indicated during late adolescence to assess the presence, position, and development of third molars.<sup>45,46</sup> A decision to remove or retain third molars should be made before the middle of the third decade.<sup>124,125</sup> Impacted third molars are potentially pathologic. Pathologic conditions generally are more common with an increase in age. Evaluation and treatment may require removal, exposure, and/or repositioning. In selected cases, long-term clinical and radiographic monitoring may be needed. Treatment should be provided before pathologic conditions adversely affect the patient's oral and/or systemic health.<sup>119,124,125</sup> Consideration should be given to removal when there is a high probability of disease or pathology and/or the risks associated with early removal are less than the risks of later removal.<sup>14,119,125</sup> Postoperative complications for removal of impacted third molars are low when performed at an early age.<sup>126</sup> A Cochrane review in 2012 reported there was no difference in late lower incisor crowding with removal or retention of asymptomatic impacted third molars.<sup>127</sup>

#### **Referral for regular and periodic dental care**

As adolescent patients approach the age of majority, it is important to educate the patient and parent on the value of transitioning to a dentist who is knowledgeable in adult oral health care. At the time agreed upon by the patient, parent, and pediatric dentist, the patient should be referred to a specific practitioner in an environment sensitive to the adolescent's individual needs.<sup>9,128</sup> Until the new dental home is established, the patient should maintain a relationship with the current care provider and have access to emergency services. For the patient with SHCN, in cases where it is not possible or desired to transition to another practitioner, the dental home can remain with the pediatric dentist and appropriate referrals for specialized dental care should be recommended when needed.<sup>128</sup> Proper communication and records transfer allow for consistent and continuous care for the patient.<sup>42</sup>

#### **Recommendations by age**

##### **Six to 12 months**

1. Complete the clinical oral examination with adjunctive diagnostic tools (e.g., radiographs as determined by child's history, clinical findings, and susceptibility to oral disease) to assess oral growth and development, pathology, and/or injuries; provide diagnosis.
2. Complete a caries risk assessment.
3. Provide oral hygiene counseling for parents, including the implications of the oral health of the caregiver.
4. Clean teeth and remove supra- and sub-gingival stains or deposits as indicated.

5. Assess the child's systemic and topical fluoride status (including type of infant formula used, if any, and exposure to fluoridated toothpaste) and provide counseling regarding fluoride.
6. Assess appropriateness of feeding practices, including bottle and breast-feeding, and provide counseling as indicated; provide dietary counseling related to oral health.
7. Provide age-appropriate injury prevention counseling for orofacial trauma.
8. Provide counseling for nonnutritive oral habits (e.g., digit, pacifiers).
9. Provide required treatment and/or appropriate referral for any oral diseases or injuries.
10. Provide anticipatory guidance.
11. Assess overall growth and development, and make appropriate referral to therapeutic services if needed.
12. Consult with the child's physician as needed.
13. Determine the interval for periodic reevaluation.

#### 12 to 24 months

1. Repeat the procedures for ages six to 12 months every six months or as indicated by the child's individual needs or risk status/susceptibility to disease.
2. Assess appropriateness of feeding practices (including bottle, breast-feeding, and no-spill training cups) and provide counseling as indicated.
3. Review patient's fluoride status and provide parental counseling.
4. Provide topical fluoride treatments every six months or as indicated by the child's individual needs or risk status/susceptibility to disease.

#### Two to six years

1. Repeat the procedures for 12 to 24 months every six months or as indicated by the child's individual needs or risk status/susceptibility to disease. Provide age-appropriate oral hygiene instructions.
2. Scale and clean the teeth every six months or as indicated by individual patient's needs.
3. Provide pit and fissure sealants for caries-susceptible anterior and posterior primary and permanent teeth.
4. Provide counseling and services (e.g., mouthguards) as needed for orofacial trauma prevention.
5. Provide assessment/treatment or referral of developing malocclusion as indicated by individual patient's needs.
6. Provide required treatment and/or appropriate referral for any oral diseases, habits, or injuries as indicated.
7. Assess speech and language development and provide appropriate referral as indicated.

#### Six to 12 years

1. Repeat the procedures for ages two to six years every six months or as indicated by child's individual needs.

2. Provide substance abuse counseling (e.g., smoking, smokeless tobacco) and/or referral to primary care providers or behavioral health/addiction specialists if indicated.
3. Provide counseling on intraoral/perioral piercing.

#### 12 years and older

1. Repeat the procedures for ages six to 12 years every six months or as indicated by the child's individual needs or risk status/susceptibility to disease.
2. During late adolescence, assess the presence, position, and development of third molars, giving consideration to removal when there is a high probability of disease or pathology and/or the risks associated with early removal are less than the risks of later removal.
3. At an age determined by patient, parent, and pediatric dentist, refer the patient to a general dentist for continuing oral care.

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# Policy on Use of Fluoride

## Latest Revision

2018

### Purpose

The American Academy of Pediatric Dentistry (AAPD) affirms that the use of fluoride as an adjunct in the prevention of caries is safe and effective. The AAPD encourages dentist and other health care providers, public health officials, and parents/caregivers to optimize fluoride exposures to reduce the risk for caries and to enhance the remineralization of affected tooth structures.

### Methods

This document was developed by the Liaison with Other Groups Committee and adopted in 1967. This is an update from the last revision in 2014. An electronic database search using the terms: fluoride, fluoridation, acidulated phosphate fluoride, fluoride varnish, fluoride therapy, and topical fluoride previously was conducted to develop and update this policy. The current update relied upon systematic reviews, expert opinions, and best current practices. The use of silver diamine fluoride is addressed in a separate AAPD policy.<sup>1</sup>

### Background

The adjustment of the fluoride level in community water supplies to optimal concentration is the most beneficial and inexpensive method of reducing the occurrence of caries.<sup>2</sup> Long-term use of fluorides has reduced the cost of oral health care for children by as much as 50 percent.<sup>3</sup> When public water is fluoridated to an optimal level, there is a 35 percent reduction in decayed, missing, and filled primary teeth and 26 percent fewer decayed, missing, and filled permanent teeth.<sup>4</sup> The occurrence of fluorosis, causing esthetic concerns, has been reported to be 12 percent when public water contains 0.7 parts per million (ppm) fluoride.<sup>4</sup> When combined with other dietary, oral hygiene, and preventive measures<sup>5</sup>, the use of fluorides can further reduce the incidence of caries.

Professional fluoride products should only be applied by or under the direction of a dentist or physician who is familiar with the child's oral health and has completed a caries risk assessment. When fluoridation of drinking water is impossible, effective fluoride supplementation can be achieved through the intake of daily fluoride supplements according to established guidelines.<sup>2,6-8</sup> Before supplements are prescribed, it is essential to review dietary sources of fluoride (e.g., all drinking water sources, consumed beverages, prepared food, toothpaste) to determine the patient's true exposure to fluoride,<sup>2,9,10</sup> and to take into consideration the caries risk of the child. The mean fluoride concentration of ready-to-feed

infant formulas in the U.S. is 0.15 ppm for milk-based formulas and 0.21 ppm for soy-based formulas.<sup>11</sup> The more important issue, however, is the fluoride content of concentrated or powdered formula when reconstituted with fluoridated water. The range of fluoride in ppm for reconstituted powdered or liquid concentrate, when reconstituted with water containing 1 ppm fluoride, is 0.64–1.07.<sup>11</sup> As the Environmental Protection Agency/Department of Health and Human Services' recommendation<sup>12</sup> for optimizing community water supplies to 0.7 ppm fluoride is instituted, fluorosis due to reconstituting infant formula with fluoridated water is less of an issue.

Significant cariostatic benefits can be achieved by the use of over-the-counter fluoride-containing preparations such as toothpastes, gels, and rinses, especially in areas without water fluoridation.<sup>2</sup> The brushing of teeth with appropriate amounts of fluoride toothpaste twice daily for all children is encouraged.<sup>13</sup> Monitoring children's use of topical fluoride-containing products, including toothpaste, may prevent ingestion of excessive amounts of fluoride.<sup>13,14</sup> Numerous clinical trials have confirmed the anti-caries effect of professional topical fluoride treatments, including 1.23 percent acidulated phosphate fluoride [(APF); 1.23 percent fluoride], five percent sodium fluoride varnish [(NaFV); 2.26 percent fluoride], 0.09 percent fluoride mouthrinse, and 0.5 percent fluoride gel/paste.<sup>15</sup> For children under the age of six years, five percent sodium fluoride varnish in unit doses, which reduce the potential for harm, is the recommended professionally-applied topical fluoride agent.<sup>15</sup>

A significant number of parents and caregivers are concerned about their child receiving fluoride and may refuse fluoride treatment even though fluoride is safe and effective.<sup>16</sup> This is similar to opposition to community water fluoridation.<sup>17</sup> Topical fluoride refusal and resistance may be a growing problem and mirror trends seen with vaccination refusal in medicine.

### Policy statement

The AAPD:

- Endorses and encourages the adjustment of fluoride content of public drinking water supplies to optimal levels where feasible.

#### ABBREVIATIONS

AAPD: American Academy Pediatric Dentistry. ppm: parts per million.



- Endorses the supplementation of a child's diet with fluoride according to established guidelines when fluoride levels in public drinking water are suboptimal and after consideration of sources of dietary fluoride and the caries risk of the child.
- Encourages the brushing of teeth with appropriate amounts of fluoride toothpaste twice daily for all children.<sup>11</sup>
- Encourages the application of professional fluoride treatments for all individuals at risk for dental caries.
- Encourages dental professionals to inform medical peers of the potential of enamel fluorosis when excess fluoride is ingested prior to enamel maturation.
- Encourages the continued research on safe and effective fluoride products.
- Supports the delegation of fluoride application to auxiliary dental personnel or other trained allied health professionals by prescription or order of a dentist after a comprehensive oral examination or by a physician after a dental screening has been performed.
- Encourages all beverage and infant formula manufacturers to include fluoride concentration with the nutritional content on food labels.
- Recognizes that drinking fluoridated water and brushing with fluoridated toothpaste twice daily are the most effective method in reducing dental caries prevalence in children.
- Encourages dental providers to talk to parents and caregivers about the benefits of fluoride and to proactively address fluoride hesitance through chairside and community education.

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# Virginia Department of Health (VDH) Dental Health Program – Educational Material Order Form

<p><b>PRINT Shipping Information</b></p> <p>Organization Name: _____</p> <p>Attention: _____</p> <p>Street Address for Shipping: _____</p> <p>City: _____ State: _____ Zip Code: _____</p>	<p>What is your professional role or job title? _____</p> <p>What type of event will these materials be used for? _____ _____</p>
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<p>Approximately how many people will be attending event or receiving resources? _____</p> <p>By what date are materials needed? _____</p> <p><b>PRINT Contact name and phone number for this order:</b> _____</p>	<p><b>Email to:</b> <a href="mailto:Earl.Taylor@vdh.virginia.gov">Earl.Taylor@vdh.virginia.gov</a> OR <b>Mail to:</b> Virginia Department of Health, Dental Health Program 109 Governor Street Richmond, VA 23219 For more information, call (804) 864-7775.</p>
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**Enter number requested by each item. Order limits might apply. Please allow 2-3 weeks for processing and delivery. "X" - Unavailable**

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# Evidence-Based Oral Health Websites

Oral Health Information for Early Childhood and  
Individuals with Special Health Care Needs (ISHCN)

## For Families and Professionals:

- American Dental Association  
<https://www.mouthhealthy.org/>
- Academy of General Dentistry  
<http://www.knowyourteeth.com/>
- American Academy of Pediatric Dentistry  
<http://www.mychildrensteeth.org/>
- American Academy of Pediatrics  
<http://www.aap.org/oralhealth/>  
<https://www.healthychildren.org/> Click on 'Healthy Living' then 'Oral Health'
- American Academy of Pediatrics Campaign for Dental Health - excellent resources regarding community water fluoridation facts  
<https://ilikemyteeth.org/>
- American Cleft Palate - Craniofacial Foundation  
<https://cleftline.org/>
- NIH Cleft Lip & Palate Information  
<https://medlineplus.gov/cleftlipandpalate.html>
- Specialized Care Company - a commercial company, but good tools and a good video on brushing someone else's teeth (for purchase only)  
<https://specializedcare.com/>
- University of Washington School of Dentistry fact sheets regarding ISHCN:  
<https://dental.washington.edu/dept-oral-med/special-needs/patients-with-special-needs/>
- Centers for Disease Control and Prevention  
<https://www.cdc.gov/oralhealth/index.html>
- "Healthy Smiles for Autism: Oral Hygiene Tips for Children with Autism Spectrum Disorder" (36 page color photo booklet)  
[http://dentaletc.umaryland.edu/odar/health\\_smiles\\_for\\_autism.pdf](http://dentaletc.umaryland.edu/odar/health_smiles_for_autism.pdf)
- "Dental Toolkit" webpage with multiple resources, including the "Autism Speaks Family Services Dental Guide"  
<https://www.autismspeaks.org/tool-kit/dental-tool-kit>

- Virginia Dental Association Foundation Resources: Donated Dental Services (DDS), MOM (Mission of Mercy, including Special Olympics), etc.  
<https://www.vdaf.org/>
- Virginia Health Catalyst – Advocacy for health of all Virginians  
<https://vahealthcatalyst.org/>

## For Medical and Dental Professionals:

- Smiles for Life Oral Health Curriculum  
<http://www.smilesforlifeoralhealth.org/>
- National Maternal and Child Oral Health Resource Center
  - <https://www.mchoralhealth.org>
  - <https://www.mchoralhealth.org/SpecialCare/> - 5 modules (4 free CE credits)
- National Institute of Dental and Craniofacial Research (printable brochures)  
<https://www.nidcr.nih.gov/health-info>
- American Academy of Pediatric Dentistry Home Page  
<https://www.aapd.org/>
- AAP Pennsylvania Chapter  
<http://www.healthyteethhealthychildren.org/> Click on “Resources” tab for printable healthy mouth pages/posters in English, Spanish, Korean, Chinese, Russian, Vietnamese, Arabic, and Haitian Creole
- American Dental Hygienists’ Association  
<https://www.adha.org/resources> Click on ‘Patient Resources’
- Special Care Dentistry  
<https://www.scdonline.org/page/Factsheets>
- Sample of a ‘social story’ for the dental office:  
<http://www.thecenterforpediatricdentistry.com/intranet/ss/socialstory.pdf>

### VDH Online Dentist Directory and Educational Resources:

<https://www.vdh.virginia.gov/oral-health/>

- Click on ‘Find A Dentist’
- Directory compiled to identify Virginia dentists who will care for individuals with special health care needs and children under 3 years
- Dentists: please add your contact information or update your information, including your email

Kami Piscitelli, BSDH, RDH  
Virginia Department of Health  
Office of Family Health Services  
Dental Health Program  
[kami.piscitelli@vdh.virginia.gov](mailto:kami.piscitelli@vdh.virginia.gov)

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# Bright Smiles for Babies

## Billing Medicaid for Oral Health Services For Infants and Children under the Age of 3

### Medical Providers

#### **Fluoride varnish**

Non-dental health care professionals who have received training may apply and bill Medicaid for fluoride varnish applications. In Virginia, this includes physicians, physician assistants, nurse practitioners, nurses (RNs and LPNs), and medical assistants.

Frequency of application is approximately every six months. Medicaid providers are eligible to receive reimbursement for six fluoride varnish applications from the age of six months up to the third birthday. Reimbursement will be denied on or after the child's third birthday. However, this preventive service is still appropriate if the child remains without a dental home after three years of age.

#### **Billing for fluoride varnish application**

Fluoride varnish application by medical providers is reimbursed by **Standard Fee for Service Medicaid and all Managed Care Medicaid**. Varnish billing is submitted in the same manner as other medical procedures. Use the CPT code below for the fluoride varnish procedure. Claims should be sent using the correct medical claim form or electronic invoice to the appropriate medical carrier.

<b>Diagnosis code</b>	<b>Procedure code</b>	<b>Description</b>	<b>Reimbursement</b>
ICD10 Code: Z29.3 (effective Feb. 2017) Prophylactic fluoride administration	CPT Code 99188 (effective 3-1-15)	Topical fluoride varnish; therapeutic application for moderate to high caries risk patients	\$20.79

#### **EPSDT services**

##### **Oral inspection**

According to federally mandated EPSDT guidelines for Virginia, oral inspections must be performed by the EPDST screening provider as part of each physical examination at any age. This inspection is not a substitute for a complete dental examination provided through direct referral to a dentist.

##### **Dental referral**

Referral for dental services should be made by the 12-month visit or when pain, active oral disease, or infection is suspected. This is consistent with the American Academy of Pediatric Dentistry's recommendation of the age one dental visit.

##### **Oral health anticipatory guidance**

Information related to oral health should be provided as part of the anticipatory guidance protocol. Topics for infancy and early childhood include dental visits, oral hygiene, nutrition, fluoride exposure, non-nutritive sucking, and injury prevention.